

### **ABSTRACT OF THE DISCLOSURE**

A process for producing a solution of a gas in a liquid in which the gas is soluble, the solution having a predetermined concentration up to saturation. The gas and the liquid are brought together under controlled supply in a proportion corresponding to the predetermined concentration of the solution, and the gas and the liquid are caused to form a stream passing through a common conduit. The gas and the liquid in the stream are caused to intermix under the action of gravity, and the intermixing is repeated before the gas and the liquid have separated, so that the gas is substantially absorbed in the liquid, forming a gas-liquid solution of the predetermined concentration. The stream may be brought into turbulence for intensifying the intermixing of the gas and the liquid. An apparatus for performing the process comprises a conduit including a continuous tubular coil formed with a plurality of upwardly and downwardly directed sections. Suitably, elements generating turbulence are disposed within the tubular coil, as is also a pressure-sustaining valve which maintains a predetermined overpressure in the conduit is provided. Suitably, the tubular coil is shaped as a horizontal helix